GLOSSARY

SECTION I. ABBREVIATIONS

A — surface area as used to determine storm drainage flow.

B — number of times a bath is filled from the water supply basin per wash period.

BOD — biochemical oxygen demand.

C — runoff coefficient used in determining storm drainage flow.

CVWF — Central vehicle wash facility.

D — drain time for the bath(s) at a CVWF.

EPA — Environmental Protection Agency.

F_c — climatic factor.

$F_{(i)}$ — flow rate location.

gpm — gallons per minute.

i — demand location.

I — rainfall intensity of design storm (10-year, 1-hour storm).

K — cleanup time.

Lpm — liters per minute.

mgL — milligrams per liter.

mgd — million gallons per day.

Nint — number of interior wash nozzles.

NPDES — National Pollutant Discharge Elimination System.

N_{wc} — number of nozzles used in a prewash.

N_{st} — number of nozzles in a wash station.

N_{t1} — number of flusher nozzles used in trenches in the vehicle preparation area.

N_{t2} — number of flusher nozzles in trenches in the wash stations.

N_{ud} — number of flusher nozzles in u-drains in the prewash.

N_y — number of yard hydrants.

pH — hydrogen ion concentration.

Q — volume per unit time of flow.

Q_1 — V_B/D (flow rate from bath drainage).

Q_2 — $N_{wc}F_{wc}$ (flow rate from nozzles in prewash).

Q_3 — $N_{st}F_{st}$ (flow rate from nozzles at wash stations).

Q_4 — $N_{t1}F_{t1}$ (flow rate from flusher nozzles in preparation area).

Q_5 — $N_{ud}F_5$ rate from flusher nozzles in prewash).

Q_6 — $N_{t2}F_{t2}$ (flow rate from flusher nozzles in wash stations).

Q_7 — $N_{int}F_{int}$ (flow rate from nozzles at interior wash stations).

Q_8 — N_yF_y (flow rate from nozzles at yard hydrants).

Q_9 — $C_pI\ A_p$ (stormwater flow rate from the Rational Method on paved area).

Q_{10} — $C_bI\ A_b$ (stormwater flow rate from Rational Method on basins).

Q_{over} — overflow rate; average rate of wash water flow into a sediment basin.

S_i — soiling index.

S_t — soil type number.

SS — suspended solids.

TDS — total dissolved solids.

TMP — transportation motor pool.

Ts — length of design storm.

T_t — wash period + cleanup (T_w + K).

T_w — wash period.

U_f — usage factor.

V_1 — V_B (volume treated from bath prewash).

V_2 — Q_2T_t (volume treated from nozzles in prewash).

V_3 — Q_3T_t (volume treated from nozzles at wash stations).

V_4 — Q_4K (volume treated from preparation area trench flushers).

V_5 — Q_5K (volume treated from bath prewash trench flushers).

V_6 — Q_7T_w (volume treated from washstation area trench flushers).

V_7 — Q_7T_w (volume treated from interior wash stations).

V_8 — Q_8K (volume treated from yard hydrants).

V_9 — Q_9T_8 (volume treated from stormwater).

V_{avg} — average volume.

V_B — volume of tracked bath, plus the volume of dual-purpose bath.

V_{max} — maximum volume.

V_{sed} — sediment volume per year divided by number of cleanings per year.

SECTION II. TERMS

Assembly area
Paved space located after the wash stations to allow replacement of interior items, drying, assembly of vehicles into units, and final inspection prior to exiting the CVWF.

Bentonite
Clay with a high content of the mineral montmorillonite group. Characterized by high adsorption and very high volume changes with wetting and drying.

Biological treatment
Process in which bacteria and other microrganisms use waste constituents as a food source; results in the breakdown of complex organic materials into simple, more stable sub-stances.

Bypass lane
Driving lane reserved for vehicles in the CVWF to go past the prewash basin and/or the wash stations to expedite forward movement.

Cantonment
Developed portion (city-like area) of a permanent military installation.

Central vehicle wash facility
Structure designed specifically to clean large numbers of tactical or transportation motor pool vehicles.

Chemical oxygen demand
Standard laboratory procedure for measuring the oxygen required for oxidation of carbonaceous (organic) material in wastewater.

Cleanup time
Period required to clean a CVWF, including drainage and cleaning of the prewash bath.

Cohesive soil
Fine-grained soil that sticks together, such as a clay or silt.

Collection system
Network of underground conduits and appurtenances that receives and conveys wastewater.

Colloids
Microscopic suspended particles that do not settle in a standing liquid and can be removed only by coagulation or biological action.

Control building
Structure at a CVWF that provides the operator a central location to observe the washing operations and regulate pumps, valves, and other equipment.

Detention time
Theoretical period that it takes a particle of matter to flow through a tank or basin.

Dissolved solid
Solid material remaining in a wastewater after filtering; determined by specific tests.

Dosing tank
Receptacle that automatically and hydraulically empties itself each time it is filled to capacity.

Drainage area
Rainfall catchment area common to a single runoff point.

Drainage structure
Construction used to collect and/or divert surface waters to a collection system; includes inlets, trench drains, catch basins, and manholes.

Dual-purpose lab
Area of a prewash facility that serves both wheeled and tracked vehicles.

Effective depth
Usable depth of sediment basin and/or lagoon for treatment or settling purposes, after deducting the depth reserved for storage of solids and freeboard allowance.

Effluent
Liquid flowing out of a reservoir, basin, tank, or other container.

Energy dissipator
Structure used to dampen erosion potential of a flowing body of water by reducing its forward velocity.

Equalization basin
Receptacle used to dampen variations in the flow of water.

Evaporation rate
Rate at which water becomes a vapor and is lost from a body of water.

Filter charge
Total volume of water necessary to flood the surface of a filter to a specific depth.

Filter medium
Granular material (sand and/or gravel) in a filter through which water passes.

Filtration
Unit operation in which solid or colloidal material is separated from a liquid by movement through a granular or porous material such as sand.

Flexor
Device installed in the bottom of a water bath at a prewash facility for causing the wheels or tracks of a vehicle to move up and down (flex) to assist in removing dirt from the vehicle.

Flushers
Devices such as water sprays that increase water flow and velocity to prevent solids deposition or to remove deposited solids in a pipe, channel, or other conduit.

Freeboard
Distance in elevation from the maximum water surface of a tank or basin to the top of its walls or overflow.

Grade
Inclination or slope of a surface in terms of a ratio or percentage of vertical rise to horizontal distance.

Grease
General term used to describe the lubricants applied to tactical and TMP vehicles.

Hardstand
Impervious surface, either bituminous or concrete, used as a pavement for pedestrian and/or vehicular traffic.

Hydraulic loading
Volume of a liquid per unit time applied to a given system or treatment process.

Hydrogen ion concentration (ph)
Measure of the number of hydrogen ions in a solution indicting acidity/alkalinity.

Impervious
Term used to describe the condition in which water or some other fluid cannot easily pass through a material such as soil.

Inflow
Water or wastewater entering a basin, pond, channel, or other storage or collection facility.

Influent
Liquid flowing into a container, basin, or tank.

Interior wash
Low-pressure, low-flow volume of water used to clean the interior of tactical vehicles, such as truck beds and cab areas.

Intermittent sand filter
Filter system with a granular medium (sand and/or gravel) which is flooded at given time intervals with a water or wastewater for treatment.

Lagoon
Pond-like body of water used to treat industrial, commercial, and sanitary wastewaters.

Loading
Rate at which a filter charge is applied to a filter.

Makeup water
Water added to a system or process to compensate for the amound of water lost due to leakage, percolation, evaporation, release, overflows, usage, or similar action.

Manhole
Structure, usually located at the junction of two or more underground pipes, that-allows access to pipes for inspection and maintenance.

Oil skimmer
Device used for removing oil and grease from a water surface.

Percolation
Downward movement of a liquid through a soil.

Permeability
Term describing the ability of water to move through a soil when the soil is saturated.

Pond
Engineered impoundment containing raw or partially treated wastewater in which aerobic and/or anaerovic stabilization occurs (also see lagoon).

Porosity
Ratio, usually expressed as a percentage, or the volume of voids in a given soil mass to the total volume of the soil mass.

Potable water
Water supply that is safe for human consumption.

Preparation area
Paved area for troops to remove trash from vehicle interiors, plug drain holes, open bilge pump discharge lines, and other tasks prior to the prewash or wash facilities.

Primary treatment
The first phase in treating wastewater in which all debris and settleable solids, along with floating materials (e.g., oil and grease) are removed.

Roller-compacted concrete
A stiff concrete, low in water content which is placed with a paver-compactor and then rolled.

Sanitary plant
Wastewater treatment plant designed to process a municipal waste (sanitary, commercial, or industrial).

Secondary treatment
Second phase in wastewater treatment in which the major portion of the suspended solids and a portion of dissolved solids are removed by physical and/or biological means.

Sediment basin
Receptacle immediately downstream of the wash stations and prewash, if provided, designed to settle and contain solids from a CVWFs wastewater.

Settling test
Assay to determine the rate at which a particular material settles from a quiescent water.

Staff gauge
Device for measuring water depth in a basin, pond, or lagoon.

Stop
Device used to limit the movement of a piece of equipment.

Surface water
Water found on the surface of the ground due to rainfall or snow melt; includes incidental water (e.g., that dripping from vehicles).

Suspended solids
Weight unit of measurement of the nonsettling particles or solids in a dispersed state in the wastewater.

Total dissolved solids
Weight unit of measurement indicating the sum of all dissolved solids (volatile and nonvolatile) in a water or wastewater.

Transportation motor pool
Facility that provides and maintains commercial vehicles for daily use at an installation (cars, buses, trucks, etc.).

Turbidity
Measure of water clarity.

Usage factor
Estimated percentage of time that the maximum water usuage condition will exist at a CVWF.

Valve box
A premanufactured structure made of concrete, steel, plastic, or fiberglass, which is placed around an underground valve.

Wash period
Time during which vehicles are washing at a CVWF.

Wash station
Area of a CVWF where high-pressure, high-flow volumes of water are supplied to hoses for cleaning vehicles.

Wastewater treatment plant
Facility designed to process sanitary, commercial, and/or industrial wastewater.

Water cannon
Device used to direct a large volume of water, at high pressure, toward an object.

Water supply basin
Receptacle at a CVWF that holds treated water for reuse at prewash and wash stations.

Weir
Usally a flat piece of metal with a characteristic shape (rectangular, V-notched, etc.) which is inserted into flowing Water for determining the flow rate.